Amendments to the Claims

1. (CURRENTLY AMENDED) A security-sensitive semiconductor product, particularly a smart-card chip, in which not only are produced electrically active structures envisaged by the chip design in the form of circuit functions in and on a wafer ~~(1),~~ which may for example be composed of silicon, but also additional, electrically conductive parts ~~(42, 61, 62) (tiles)~~, which are insulated from one another, are generated as a filling structure, characterized in that the parts ~~(42, 61, 62)~~ of the filling structures that are generated are combined with contacts ~~(51)~~ in such a way that additional circuit functions are generated as well as the circuit structures ~~(2, 3, 4, 5, 6)~~ that are produced for the circuit.

2. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 1, characterized in that the parts ~~(42, 61, 62)~~ of the filling structures that are generated are composed of metal, of polycrystalline silicon, of diffusion regions, or of other electrically conductive materials of the semiconductor product.

3. (CURRENTLYA MENDED) A security-sensitive semiconductor product as claimed in claim 2, characterized in that the contacts ~~(51)~~ are also set by a routing program belonging to a design program for chip design.

4. (CURRENTLYA MENDED) A security-sensitive semiconductor product as claimed in ~~any of the foregoing claims~~claim 1, characterized in that the passive fill structures ~~(61)~~ composed of metal are connected together electrically, so that at least one closed signal path is formed between two or more nodes of the active circuitry of the circuit.

5. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in ~~any of the foregoing claims~~claim 1, characterized in that the contacts ~~(51)~~ are set in such a way that arbitrary interlinkings, both horizontal and vertical, of the parts ~~(61)~~ of the fill structure are produced.

6. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 5, characterized in that the contacts ~~(51)~~ are set in such a way that after each part ~~(61)~~ of the fill structure the wiring level is changed and the horizontal direction is changed within the level.

7. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in ~~any of the foregoing claims~~claim 1, characterized in that substantially the major proportion of the fill structures ~~(61)~~ generated are incorporated in the signal path, so that active, electrically connected parts ~~(61)~~ of the fill structures are even situated next to dummy fill structures ~~(62)~~ that are insulated from the active electrically connected parts ~~(61)~~ of the fill structures.

8. (ORIGINAL) A security-sensitive semiconductor product as claimed in claim 7, characterized in that the signal path is connected to further suitable integrated electronic circuit components such as, for example, transistors, diodes, resistors and capacitors.

9. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 8, characterized in that the signal path that is composed of parts ~~(61)~~ of the fill structures that are interlinked with one another is used as a supply track by connecting electronic circuit components, such as transistors, diodes, resistors, capacitors or opto-electrical components, to the supply voltage via the parts ~~(61)~~ of the fill structures that are interlinked with one another.

10. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 8, characterized in that the signal path that is composed of parts ~~(61)~~ of the fill structures that are interlinked with one another is used as a supply-to-ground path by causing the parts ~~(61)~~ of the fill structures that are interlinked with one another to form an electrically conductive current path between the supply voltage ~~(vdd)~~ and the ground potential ~~(gnd)~~ of the electronic circuitry.

11. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 9, characterized in that a pick-off, which may be fed to electronic analyzer circuits, takes place between two contacts ~~(51)~~ at a time on the signal path.

12. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 10, characterized in that the signal path that is composed of parts ~~(61)~~ of the fill structures that are interlinked with one another is used as a resistive signal path, in which case the parts ~~(61)~~ of the fill structures that are interlinked with one another are connected between the supply voltage ~~(vdd)~~ and the ground potential ~~(gnd)~~ of the electronic circuitry and, as well as this, semiconductor resistors are inserted in this path at random intervals by means of contacts that are set.

13. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 11, characterized in that a pick-off, which may be fed to electronic analyzer circuits, takes place between two resistors ~~(14)~~ at a time.

14. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 12, characterized in that the optical tracing of the electronic circuitry of security-sensitive semiconductor products, and particularly smart-card chips, is very much impeded by the size and positions of the interlinked parts ~~(61)~~ of fill structures.